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ABSTRACT

As a part of an effort to bolster the United Nations Children's Fund's (UNICEF) capacity to promote child development, this report examines the psychosocial development of the child. The intent is not to shift UNICEF's attention to the psychosocial elements of children's needs, but to help UNICEF to implement early childhood development efforts with adequate awareness of children's psychosocial needs. A brief background statement is accompanied by recommendations to the executive board. Subsequent chapters concern: (1) early childhood development in perspective; (2) child development projects in developing countries; and (3) policy and action implications. Chapter I discusses the problems of identifying children at risk of psychosocial deprivation, the causes and consequences of this deprivation, and the possibility of counteracting it. Chapter II reviews a range of projects which focus on early childhood development and draws conclusions about organizational aspects of programs. Chapter III discusses policy and action implications of conclusions presented in earlier chapters and offers general guidelines for UNICEF support of early childhood development activities. Appendixes provide an illustrative list of psychosocial stimulation activities for the young child and a table listing main problems of child development and responsive program emphases for different socioeconomic situations. (RH)

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POLICY REVIEW

EARLY CHILDHOOD DEVELOPMENT

Summary

This report on early childhood development was requested by the 1983 Executive Board. Its objective is to help UNICEF to implement its child development activities with adequate awareness of the range of the child's developmental needs, including psycho-social needs. After a brief background statement accompanied by recommendations to the Executive Board, chapter I of the report, drawing on relevant research findings, discusses the problems of identifying children at risk of psycho-social deprivation, the causes and consequences of this deprivation and the possibilities of counteracting it. Chapter II reviews a range of projects which focus on early childhood development and draws conclusions about the organizational aspects of programmes. The final chapter discusses the policy and action implications of the conclusions presented in earlier chapters and concludes with general guidelines for UNICEF support of early childhood development activities.

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BACKGROUND AND RECOMMENDATIONS

Child development, broadly defined, is the process of physical, psychological and social maturation that occurs during the early years of life. The rate and quality of that development will affect the child's future choices and quality of life in later years. If development is delayed or children are debilitated, they cannot live up to their potential; by contrast, if their development is attended to in the proper way, children have a better chance for the future and the opportunity of living creatively, making the most of their potential abilities. Another consequence of neglecting children's development is that society incurs a cost, since it permits human resources to be wasted and may also have to provide for compensatory programmes. And since delayed development is concentrated in poor families, social inequities are reinforced.

The intellectual and emotional aspects of children's development cannot be separated from their physical well-being and growth. However, the physical dimension - poor nutrition, ill health, high infant and child mortality - represents the more visible and serious manifestation of the problems faced by young children in most developing countries. The bulk of UNICEF efforts and resources have been devoted to supporting programmes which prevent diseases and contribute to the healthy growth of children. UNICEF's current advocacy of a child survival revolution reflects this emphasis, recognizing that physical survival must receive utmost priority. To the extent that progress is made in achieving higher rates of child survival, the question of what happens to the living becomes even more important. Indeed, success in the struggle for survival may mean that more poor children will suffer inadequate physical, psychological and social development, affected as they are by the same poverty that threatened their life.

UNICEF programme approaches and policies have long stressed the importance of taking a comprehensive view of children's developmental needs. 1/ The multiple dimensions of children's needs received attention in many international and national forums during the International Year of the Child in 1979. In that year, the Executive Board also reviewed a report on child mental health (E/ICEF/L.1389) endorsed by the WHO/UNICEF Joint Committee on Health Policy and adopted a conclusion emphasizing mental health as a component of total child health and approving UNICEF support in that field. 2/ It was stressed that activities to promote child mental health should be seen as integral to primary health care and should take place within the framework of community-based action. Underlying all UNICEF programme efforts is the strategy of basic services adopted by the Executive Board in 1976 (E/ICEF/L.1342), which emphasizes the importance of developing interrelated services aimed at meeting the essential human needs of children and mothers, paying attention to the most disadvantaged groups, relying on simple technologies and ensuring full participation by the communities.

The specific issues related to the psycho-social aspects of the child's development, however, have not been addressed by the Executive Board. They have become especially relevant in the past years since changing socio-economic conditions - the growing numbers of people living in urban squalor, erosion of traditional rural community and family structures, and increasing numbers of women working outside the home - have created new

demands for systematic attention to child development services. UNICEF has been responding to these demands in many countries by supporting early childhood development projects which recognize the importance of both the biological and the psycho-social dimensions of the growing child's developmental needs and which apply pragmatic and low-cost approaches, with prominent roles played by the family and the community. Many of these projects also serve as entry points for broader community development efforts. Some projects, however, have had less success in serving the most disadvantaged groups or effectively addressing the urgent developmental problems of children on a wide scale. One reason for this appears to be the lack of specific policy guidelines for dealing with the psycho-social aspects in the context of overall child development needs.

In 1983 the Executive Board requested a report on UNICEF experiences in early childhood development. In view of the aforementioned inadequacy in policy guidelines, this report concentrates on examining the policies and programme approaches required for promoting the intellectual, social and emotional aspects of child development in the light of current knowledge and the lessons learned from experience both by UNICEF and by others. The report examines the concept of the psycho-social development of the child, drawing heavily on available research evidence. The intention is not to shift UNICEF attention to the psycho-social elements of children's needs, but to help UNICEF to implement early childhood development efforts with adequate awareness of the psycho-social needs. The organizational arrangements and strategies that it recommends do not, in fact, indicate a new direction in UNICEF policy but rather build on UNICEF's focus on child survival and health, emphasizing the need to recognize the interaction of the biological and psycho-social aspects of child development and to follow the tenets of the basic services approach in the formulation of programmes. Many developing countries have become interested in programmes for comprehensive child development. Many of these programmes have been initiated by Governments, non-governmental organizations, communities and families. One of the aspects that has received particular attention is the possibility of using early stimulation techniques to help children with developmental problems. There is also the need to help "normal" children who do not have special problems but who are not realizing their potential for lack of care and a stimulating environment.

This report is a first step in a series of proposed activities to bolster UNICEF's capacity to promote child development. These include: the preparation of a manual on child development for programme staff in the field; systematic evaluation of projects; selective support for research and experimentation on operational issues; greater attention to UNICEF staff orientation and redeployment in response to countries' demands for child development activities; closer collaboration with interested international and non-governmental organizations; and working links with university research departments.

The report is based on background material prepared by a consultant, Mr. Ernesto Pollitt, from Peru. Mr. Pollitt made field visits to several countries and his findings were reviewed in a meeting in Santiago, Chile, attended by personnel from UNICEF and several other national and international organizations. The draft of this report was also reviewed by UNICEF staff and a group of experts in the field of child development.

Recommendations to the Executive Board

It is proposed that in the light of the discussion of policy issues and programme implications in this report, the Executive Board should adopt the following recommendations on the promotion of early childhood development:

(a) Bearing in mind the fact that a concern for comprehensive child development naturally includes concern for children's survival, health care, growth monitoring, attention to learning and stimulation designed to help them realize their full potential, attention to the intellectual, social and emotional aspects of child development should be incorporated into UNICEF basic services and primary health care programmes. Systematic attention should be given to creating a stimulating environment for the psycho-social development of the young child. Activities should be tailored to the local context and should aim both to draw on and to strengthen the resources available in the family and the community. Particular attention should be paid to the needs of mothers in pregnancy and of children from birth to two, as well as ensuring that programmes for three-to-six-year-olds address a broad range of urgent developmental needs, especially those of children living in poverty and affected adversely by forces of socio-economic change;

(b) UNICEF should encourage and support national efforts to diagnose the total developmental needs of children and should assist in formulating national policies and determining programme priorities, adopting affordable and cost-effective approaches in different socio-economic situations;

(c) In so doing, UNICEF should explore and encourage approaches which hold promise for reaching a high proportion of a nation's children, not just the few; and it should not only be concerned with new or institutionalized approaches but should place equal stress on understanding and, as appropriate, furthering means to protect and maintain the existing or traditional ways through which children receive the stimuli for psycho-social development from their families or neighbourhood communities;

(d) UNICEF should collaborate with Governments, non-governmental organizations, United Nations agencies, universities, aid-giving agencies and the communities and families in researching, evaluating and publicizing feasible and effective ways to incorporate psycho-social aspects in child development efforts;

(e) UNICEF should continue its efforts to strengthen its own capacity to foster the development of children with attention to their psycho-social needs by appropriate measures including the systematic evaluation of projects, appropriate training and deployment of its staff in response to countries' demands for child development activities and the preparation of a manual on child development to guide its field staff.

I. EARLY CHILDHOOD DEVELOPMENT IN PERSPECTIVE

1. Child development is a dynamic process in which it is extremely difficult to separate physical and psycho-social factors, except in conceptual terms. In these terms, psycho-social development refers to the cognitive, social and emotional development of the young child which results from the continuous interplay between the growing child and the changing environment. Memory, attention, reasoning, language and emotion as well as the general ability to interact with one's physical and social environment depend on the biological maturation of the central nervous system and the brain. A minimum level of physical well-being is therefore a pre-condition for the mental processes to function. On the other hand, psychological stress can cause physical distress and adversely affect the health and physical growth of the child.

2. Differences in the ecological and cultural environment strongly affect both physical and mental development. The interaction with the environment shapes the nature of the abilities and skills acquired and how they are valued: the children of farmers in West Java will have a somewhat different learning experience from that of shepherd children in the Bolivian altiplano, and their social group will especially value those skills that are most necessary in the particular environment. Moreover, the degree of complexity of the social group, as indicated by its institutions, economic development and technological progress, will determine the complexity of the abilities and skills required.

Risks and their consequences

3. The young child in a poor developing country is subject to multiple hazards. The satisfaction of such basic needs as food and shelter and the availability of such social services as health care, water supply, sanitation and education cannot be taken for granted in a developing country. The sequence of circumstances that affect a large proportion of the population runs along the following lines:

> Poverty - malnutrition during pregnancy - communicable diseases - child malnutrition - psychomotor disturbances - retarded physical and mental growth and disabilities - low level of activity - development below potential - low economic productivity in adulthood - poverty.

4. The order of magnitude of the hazards faced by children in developing countries can be gauged from some relevant global statistics. There are about 500 million children under the age of six in the developing countries. For many of them, the family income is not sufficient to meet their basic nutrient requirements. It is essentially these children who are also the victims of various other forms of deprivation which place their normal growth and development in multiple jeopardy.

5. To quote only some pertinent statistics (Rohde, 1983): 40 per cent of all children under six in developing countries - some 200 million - suffer from chronic protein-energy malnutrition; 12 per cent, or 60 million, suffer from acute protein-energy malnutrition; nearly a quarter of all infants born each year in developing countries - some 17 million - weigh under 2,500 grams at birth; and half of all women of child-bearing age - some 220 million - suffer from nutritional anaemia.

6. Comparable numerical or qualitative data about psychological and social factors are not available. Work on human development, largely carried out in industrialized countries, has not been of much help in this respect. The theoretical assumptions of developmental psychology have emphasized the neurological and psychological variables or intra-family factors, largely neglecting the effects of dominant cultural patterns, the extended family and community influences and the problems originating from socio-economic structures. The biophysical determinants that place children "at risk" have also been given insufficient attention. The paucity of information from developing countries has been an unavoidable weakness of the research evidence presented in this report.

7. Attention to psycho-social development presupposes improvements in conditions affecting survival. It is nearly pointless to talk about the psycho-social development of a child whose physical survival is at stake. At the same time, it is short-sighted to express concern only about children's survival and not the development of their human potential, the quality of the life they will lead, and the contribution they will make to society if they live. Particular attention will need to be paid to the consequences of ill health and malnutrition and the interaction between physical and psycho-social development.

Risk assessment

8. Identifying risk factors and groups "at risk" can serve as a basis for policies to promote physical, mental and social development. In describing and analysing environmental influences on child development, especially from the point of view of planning beneficial interventions, the concept of risk and the identification of risk factors and groups at risk have been found particularly helpful. A risk factor for the child's psycho-social development could be defined as:

> A major, identifiable biological or environmental circumstance or event affecting women during pregnancy and lactation or infants and young children which impedes the child's acquisition of the mental abilities and skills necessary for adaptation to the eco-cultural environment and, therefore, suggests the need r prevention and special care and attention. 3/

9. In order to draw specific policy and action implications from the identification of risk factors and at-risk groups it is necessary to identify how often problems of development occur and how severe these problems are when children are exposed to risk. Causal links should also be established between a particular risk factor and specific developmental problems.

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10. In the real world, however, the child's development is influenced directly and indirectly by a multiplicity of interacting biological, ecological and cultural factors. These multiple influences complicate risk assessment and the attempt to establish specific causal links between risk factors and developmental effects. Nevertheless, it is possible to identify situations associated with developmental deficiencies among children, and a knowledge of these associations can serve as the basis for policies and actions even where precise cause-effect relationships cannot be established.

11. Reducing risks to the poor is a central problem in child development. The hazards to the development of the child are not distributed equally between all social groups and all parts of a country. Geographic and class distribution of health and educational facilities, differential treatment of male and female children, distribution of wealth and income and dominant cultural practices are determinants of the types and intensity of development problems children face. Children of those social groups which are economically deprived or outside the mainstream of society such as ethnic and linguistic minorities and those living in inaccessible parts of the country are in greater danger from a developmental perspective, and less able to take advantage of the social services that may be available.

12. Socic-economic inequity arising from prevailing social structures is not likely to be affected significantly by child development activities except perhaps in contexts where the overall socio-political setting is strongly equity-oriented. However, the existence of inequity and the obstacles to development that it creates for the children of disadvantaged groups have to be taken into account in child development policies and programmes. A policy of reducing risks for society as a whole cannot be effective unless special attention is given to the disadvantaged groups, which are most at risk.

Types of risk

Pregnancy, pre-natal factors and low birth weight

13. Poor health and nutrition in the pregnant mother, stressful intra-uterine conditions, low birth weight (LBW) (below 2,500 grams) and early childhood trauma can all result in cumulative developmental problems. The combination of these risk factors causes infant and child death in some cases, but a much larger number of children suffer brain damage in varying degrees, which leads to different forms of physical and mental disabilities (Sameroff and Chandler, 1975). Data on maternal health and nutrition at the pre-natal stage and the intra-uterine situation are scarce in developing countries. Some information, however, is available for LBW.

14. Low birth weight resulting from malnourishment in the womb makes children vulnerable. In the industrialized countries, two thirds of LBW babies are born prematurely, whereas three quarters of LBW babies in developing countries are born full-term. In other words, the LBW babies in developing countries are malnourished in the womb, as are their mothers during pregnancy. The incidence of LBW is much higher in developing countries - up to 25 per cent of all live births compared to 6 to 9 per cent in Europe (World Health Organization, 1980).

15. The health risks of LBW have been well established, with 30 to 40 per cent of all infant deaths in developing countries accounted for by LBW. Information about the effect of LBW on mental development in developing countries is relatively scarce, but it can be taken that social and environmental factors in the homes of LBW children play a major role in determining the final outcome. A supportive environment, including attention to the child's health and nutrition needs, would contribute to shifting the course of the child's development towards a healthy path; but in the absence of this care, the child will not overcome the initial health handicap and the probabilities are high that mental development will suffer. Unfortunately, the same factors, closely related to families' socio-economic status, which cause the problem also prevent remedial action. The policy question, therefore, is first, what can be done to prevent LBW, particularly among economically disadvantaged groups; and second, how to protect LBW children born in poverty from the stressful post-natal experiences that impair their capacity for acquiring the necessary abilities to function effectively in their eco-cultural context.

Malnutrition

Micro-nutrient deficiencies

16. Although micro-nutrient (vitamin and mineral) deficiencies commonly occur in association with protein-energy malnutrition, special programmes to deal with micro-nutrient deficiencies are justified in some situations. Debilitating nutritional anaemias, which decrease work capacity at all ages and affect children's attention span and learning ability, are extremely widespread. Iron deficiency is the main cause, but folate deficiency is also important, especially in pregnant women and young children. Iodine deficiency is highly prevalent in some developing countries; it is often associated with cretinism, which is an extreme form of mental retardation, and with deaf-mutism. Milder forms of iodine deficiency during pregnancy or early infancy and childhood may be associated with milder neurological signs. It has been estimated conservatively that at least 600 million people of all ages are affected by iodine deficiency at any one time (Matovinovic, 1983). Vitamin A deficiency is also highly prevalent in many developing countries, and in its extreme form is associated with blindness (xerophthalmia). Where infants are kept shielded from the sun, as in the Middle East or China, rickets (vitamin D deficiency) is common.

17. The human body has considerable capacity for adaptation and can adjust to a low intake of certain nutrients. However, there are definite limits to this and multiple deficiencies can often produce negative synergistic effects. The answer in general is an adequate and balanced diet, although special additional efforts may be needed in the case of deficiencies of iodine, iron and vitamins A and D. Sometimes appropriate foods are available but not eaten in sufficient quantities and the solution lies in nutrition education. In many situations, however, no significant result can be achieved without attention to the production, distribution and consumption of nutritious foods. At the same time, stimulation which helps the child's psycho-social development also contributes to the success of any programme intended to improve the child's nutritional status.

Protein-energy malnutrition

18. Protein-energy malnutrition (PEM) is one of the most prevalent nutritional and health problems throughout the world. There are significant clinical and functional differences between mild and moderate protein-energy malnutrition, on the one hand, and severe malnutrition, on the other. Severe malnutrition includes marasmus (general protein and caloric deficiency) and kwashiorkor (protein deficiency) and is far less pervasive than mild to moderate malnutrition. Among populations where malnutrition is endemic, growth retardation has been consistently associated with low performance in aggregate measures of intellectual functioning (such as intelligence quotient or development quotient tests) or in measures of specific cognitive processes (such as attention or learning).

19. Studies on the effects of nutrition supplements on infants and children nutritionally at risk have shown that the supplements have mild beneficial effects on the mental and motor development of children up to about 36 months. At older ages, however, the effects of supplements have not been demonstrated, except in those cases where they were accompanied by non-formal education directed to children and mothers.

20. For example, a nutrition intervention project in Cali, Colombia, included educational activities and medical care for children aged three and a half to seven years affected by mild to moderate malnutrition (McKay and others, 1978). Treatment was divided into four periods based on the children's age, and two control groups were used: one from the same low-income neighbourhoods as the samples, the other from a high socio-economic group. An average treatment day consisted of six hours of integrated activities, with approximately four hours devoted to education and two hours to health, nutrition and hygiene. The results showed that the younger the child at the beginning of the intervention, the higher was the initial impact of the treatment. Likewise, the longer the period of treatment, the higher were the benefits at the end of the treatment. However, although all the treatment groups benefited, it was found that the gains were less as the children grew older, even though they continued in the treatment programme. All the treatment groups had better aggregate scores in general cognitive ability than those of the comparison groups from their own impoverished neighbourhoods, but none of them reached the level of performance of the high-income children.

21. Reviews of data from Africa, Asia and Latin America show that severe chronic PEM during the first months of life results in substantial retardation in mental development (Pollitt and Thomson, 1977). Similar degrees of retardation have been observed in studies conducted one to two years after the episode of malnutrition. There is evidence, however, that early severe PEM can be overcome. A well designed experiment from Jamaica has reported significant gains in the mental development of severely malnourished children following nutritional rehabilitation and a stimulation programme. The programme included scheduled play periods while the children were in hospital, followed by home visits by community health aides, involving mothers in the programme activities. At the end of 12 months, the treated group scored the same on the Griffith Developmental Scale as a well-nourished comparison group and substantially higher than another group who were given the hospital treatment but not the home stimulation programme (McGregor and others, 1978, 1979).

22. These results are consistent with the hypothesis that, even under conditions of biological trauma, the organism has the capacity to reorient its development back to a normal path, particularly during the first 18 to 24 months of life (Scarr-Salapatek, 1976, and McCall, 1981), and particularly if the process takes place in a stimulating environment. The reorientation to a normal path, however, is not likely to occur if the child remains in an adverse environment where neither biophysical nor psycho-social needs are adequately met.

23. In summary, the following conclusions can be derived from the data on the effects of malnutrition on mental development and efforts to alleviate the adverse effects:

(a) Chronic and severe PEM during the early months of life has long-term developmental consequences. Nutritional rehabilitation followed by home-based psycho-social stimulation can help children to overcome their mental disabilities. As far as social policy is concerned, it is obviously preferable to concentrate on preventive measures so that children do not become victims of severe PEM, requiring costly remedial intervention;

(b) Children with low calorie intake reach a state of energy balance by decreasing their activity levels; the specific functional consequences of this adaptive mechanism are not known. However, during infancy and the pre-school period the child learns by exploring the surrounding environment; therefore, reductions in activity level may have significant adverse consequences on the mental development of malnourished children;

(c) Malnutrition, severe or moderate, is closely related to negative factors in the child's environment affecting the child's mental development, including poor housing, deficient caretaking, inadequate education and high mortality among siblings (Richardson, 1974, and Richardson and others, 1975). Specific nutritional or stimulation measures which leave these other conditions untouched are likely to have only a limited and short-run success, if any.

Breast-feeding and weaning

24. Breast-feeding has multiple developmental implications for the child. Its immunological and nutritional benefits are particularly significant for developing countries where children may grow up in poor hygiene and sanitary conditions and where communicable diseases are rampant. Despite the beneficial effects of breast-feeding, bottle-feeding in many developing countries is on the rise, largely because of socio-economic circumstances which separate the infant from the nursing mother. Work-related constraints, malnourishment and illness of mothers and insufficient breast-milk have been cited as reasons for the decline in breast-feeding, particularly among low-income groups. The greatest decline in its extent and duration has taken place in the Latin American countries.

25. Inappropriate weaning practices, particularly the nutritional inadequacy of weaning foods (for example, poor food value or infrequent intake) and their unhygienic handling, constitute a widespread problem in developing countries, making a large number of young children victims of debilitating diarrhoea and malnutrition. An important concern in infant feeding is the age at which breast-milk alone is no longer a sufficient source of nutrients. One report concludes that under some conditions breast-milk may be inadequate as the sole source of nutrients as early as three months (Committee on International Nutrition Programs, National Research Council, 1983). Complementary nutrients are usually needed at four to six months of age. The immunological properties of breast-milk provide protection throughout the breast-feeding period but the caloric and protein intake often is not sufficient during the latter part of infancy to maintain the child's growth and activity level.

26. It is important, therefore, that the child is breast-fed at least during infancy for nutritional, immunological and psychological reasons. At the same time, the need for complementary nutrients from mid-infancy should be kept in view. Attention should also be given to educating mothers about appropriate weaning foods and practices and hygienic handling of children's food.

Communicable diseases

27. Communicable diseases, when they do not kill the child, impair mental development by reducing the energy level and limiting the child's capacity to respond to learning situations and to interact with other people. The significance of infectious diseases for the physical growth of children has been thoroughly explored. However, information about the effects of diseases on mental development is much more limited.

28. Examining the relationship between illness during the first six months of life and performance in mental and motor development tests, a study in Taiwan showed that healthy children were substantially more advanced than those who suffered from both or either of two sets of diseases grouped under the labels of gastro-enteritis and upper respiratory infections (Pollitt, in press).

29. All infections are also nutritional set-backs. A case in point is diarrhoea, which affects almost all the children of the developing countries, who on average suffer three to four bouts every year. It becomes a serious health threat in about 10 per cent of the cases and causes almost a third of all child deaths. Repeated bouts of diarrhoea limit the absorption of nutrients by the child's body, resulting in weakness, weight loss, vulnerability to further infections, and retarded growth. According to a World Bank study, "this combination is the major cause of chronic growth deficit, both physical and perhaps mental, in the more than 200 million deprived children in the world". 4/

30. Protecting children from the scourge of communicable diseases - stopping untimely deaths and preventing physical and mental impairment - must be a top priority in child development efforts. Appropriate national policies and goals have to be backed by measures widely applying the affordable remedies that are available, including immunization against the common preventable diseases, popularization of oral rehydration for treating diarrhoea, appropriate infant feeding practices, education about health, hygiene and sanitation and the expansion of clean water supply and sanitary facilities.

The family environment

The family under stress

31. The child is almost totally dependent on the care of others for survival and for physical and psychological growth. Particularly at the earliest stage of life, the care is most likely to come from the parents or the extended family, which includes the members of a kinship group in which child upbringing responsibilities are shared by others besides the parents.

32. The family as an institution is under different kinds of stress almost everywhere. To give only one example, the pressures in rural areas that are incapable of supporting the poorest, usually landless, families, as well as the pull of apparent greater economic opportunities in cities, place powerful tensions on both urban and rural families. One consequence is partial or complete family migration into the uncertainty of life in slums and shanty towns. An outcome of this migration process, on top of natural population increase, is that more and more low-income families live in cities, struggling for survival.

Family size and birth order

33. Large families consisting of many siblings levy a toll on the development of the child, particularly among low-income groups. A 40-year-old malnourished mother who has had six or seven previous pregnancies is not likely to offer an optimal intra-uterine environment for a new child, and she may not have enough breast-milk to meet the child's requirements during the first six months of life. Thus the child is placed at risk even before birth. The mother may also have difficulty in giving adequate care and attention to the new-born because of the demands for attention from the other siblings on top of the burden of her numerous household and other duties such as farm work.

34. The effect of the number of siblings on the child's development is reflected, in an extreme form, in infant mortality. Both in Santiago, Chile, and Monterey, Mexico, according to research reports, infant mortality was 40 per 1,000 live births for the first-born, whereas for the fifth or later-born children, this figure rose to 90 per 1,000 (Puffer and Serano, 1973). Numerous studies from different countries have reported a higher prevalence of malnutrition among larger families and a higher vulnerability to malnutrition of the later-born children (Gupta and Mwambe, 1976, and Roberts, 1975).

35. These findings do not necessarily prove that a large number of siblings in itself affects the child's physical and mental development; in fact, it can be argued that large families do not have the caretaking proble[illegible] of small nuclear families, and that they provide greater opportunities for social interaction for the growing child. But large family size is often associated with a syndrome of conditions - low family income, closely spaced births, low level of parental education, pregnancy at too young or too advanced an age, and poor housing and sanitary facilities.

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Family composition and mothers' employment

36. A potentially unpromising environment for the young child is the single-parent family headed by a mother who works away from home and whose income does not permit adequate alternative child care. Yet this is a typical situation for a sizeable number of families in the large urban agglomerations of developing countries - a number certain to grow in the future. In a shanty town of El Salvador in 1975, for example, 21 per cent of the families were found to be in this category (Nieves, 1979). This is not an exclusively urban phenomenon; in parts of southern Africa, as many as one third of all families are single-parent and headed by women. In a growing proportion of households, in fact, women are the sole or main economic providers because of such factors as family dissolution, migration or male unemployment.

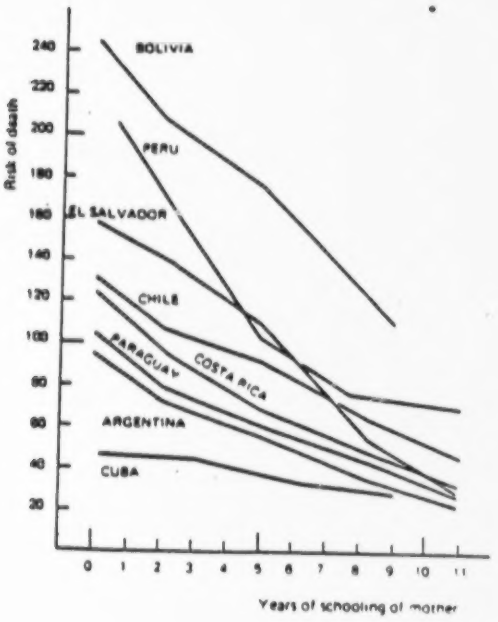
37. A number of factors need to be taken into account to understand the consequences of mothers' employment for child development. The negative consequences stem from reduced time for child caretaking, including breast-feeding; possible incompatibility of the mother's job with child care, especially at the early stage of the child's life; possible inadequacy of the substitute caretaking; and the lack or poor quality of supporting social services (see Engle, 1982). On the positive side, one must consider the additional income that enables the mother to purchase food and services; the enhancement of her social status that a wage-earning role may bestow on her; the self-esteem and competence she develops in managing the family affairs, including those related to child welfare; and the reduced fertility and increased spacing between births associated with women's wage-earning. The evidence tends to suggest that any adverse consequences are related to meagre earnings as well as poor substitute caretaking, rather than the fact of mothers' employment.

Mothers' education

38. Evidence has accumulated in recent years to show that the education of mothers is one of the critical determinants of children's health, welfare and development. Over 24 separate studies in 15 different countries have established that the level of the mother's education - even within the same economic class - is a key influence. In various Latin American countries at very different levels of economic development, a decline in the mortality of children during the first two years of life was found to be consistently related to the increase in the number of years of schooling of the mothers (figure 1).

Figure 1

Risk of death between birth and two years of age as a function of years of schooling of the mother, in selected Latin American countries, 1966-1971



Source: UNICEF/Economic Commission for Latin America, Indicators on the situation of children in Latin America and the Caribbean, 1979.

39. For the purposes of policy formulation, it is necessary to know more about the mechanisms through which female education influences child welfare, the most effective content and methodology, and whether a relatively limited participation in a literacy programme or in one or two years of formal or non-formal education makes a difference, since the masses of illiterate women are unlikely to have an extended opportunity for education in the near future. It can be stated, however, that the education of women affects the welfare and development of children in at least three ways:

(a) Educated mothers, even those who have been exposed to a limited educational experience, are more receptive to, and more able to take advantage of, strategies and programmes designed to enhance the psycho-social development and life chances of children; they are more likely, for instance, to accept birth spacing. This openness is especially important where profound socio-economic changes are affecting the family and the role of women, such as urbanization, migration, changes in the rural economic structures and erosion of traditional norms of family behaviour;

(b) Mothers exposed to education provide their children with useful norms of learning and interaction and create a favourable environment for children's psychological development, transmitting useful skills and shaping children's intellect and behaviour in adaptive ways;

(c) Women with education are likely to manage the resources of the household in a fashion that maximizes the benefit to the development of the child and are likely to have a greater say in family decisions.

Early childhood stimulation

40. Early stimulation is any activity that enhances the child's physical and psychological development. The activity may involve certain objects but it always demands a relationship between the child and an adult - a communication that may take the form of gestures, whispers, attitudes, words and many different types of expression. Stimulation is carried out by means of simple techniques which may be applied by anyone. They are educational and formative techniques which are often based on practices that previous generations traditionally used. They seek to achieve an attentive, loving and continuous communication with the child from the moment of birth and throughout the developmental period. They increase perceptual abilities by putting the child in contact with colours, sounds, odours, textures, flavours and exercises. With patience and continuity, they can develop the fine and gross motor functions of the child by means of massages, balancing, movements and games. The child is introduced to knowledge of the world from the moment of birth through a constant communication which includes images, relations, songs, numbers, stories and a feeling of security and affection. Children who do not receive proper stimulation in one form or another cannot develop their capacities as members of the human race. As the President of Venezuela said in launching Proyecto Familia (see paragraph 64): "It is a matter of achieving the complete development of the child, considered as a functional, dynamic, evolutionary entity within a specific cultural and historical setting, and especially of the child who lives in precarious conditions, so that he or she can face the demands of modern life with a maximum of intelligence and creativity". 5/

41. Studies of child rearing and its subsequent effects on developmental outcome in the early years have focused on three classes of stimulation: (a) the quantity and quality of tactile and kinaesthetic stimulation (body contact and body movement); (b) mothers' social interaction with the child; and (c) selected components of the home environment. Experimental studies of infants given supplemental amounts of kinaesthetic stimulation (body movement) in early infancy have shown improved developmental outcome. For example, it was found that increased visual, tactile and motor stimulation given to LBW infants in the first year of life resulted in better grasp reflexes, greater alertness and increased weight gain (Scarr-Salapatek and Williams, 1973). Comparative development studies of motor skills among African infants have indicated the benefits of greater physical contact with their mothers and other adults, resulting in greater tactile and muscular stimulation (Super, 1981).

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42. The mother and other adults, including the father, play the role of mediator between the environment and the infant, serving as a catalyst for the infant's exploration of the surroundings. Although investigators differ on the nature of the specific behaviours of mothers that appear to be instrumental, they agree in their finding that the mother plays a significant role in the development of intellectual competence, as defined by intelligence quotient testing and exploratory or play behaviour. It has been observed in rural or impoverished areas of less developed countries that significant relationships exist between maternal verbal behaviours such as joining in "pretend" games, answering the child's questions and reading frequently to the child, and the child's performance on memory and development quotient tests (Rogoff, 1977, and Grantham-McGregor, 1983).

43. After the initial phase of rapid biological maturation, beyond the second year, environmental stimuli exert a relatively powerful effect on the development of the child. Specific attention therefore needs to be directed to the degree of stimulation provided by the home. In developed countries, such elements of the child's home environment as the provision of appropriate play material, opportunity for variety in daily routine, the organization of the physical and temporal environment, and the care-giver's emotional and verbal behaviour were found to be significant predictors of the child's mental development after age three. Similar investigations conducted in less developed countries among rural and urban low-income groups have been less successful in determining the relationship between factors in the home environment and various measures of intellectual competence. The absence of conclusive findings, however, appears to have arisen from indadequate measuring tools and perhaps culture-bound concepts of what is relevant in the home environment.

Early childhood intervention programmes

44. Early childhood intervention programmes - providing a combination of non-formal education, health and nutrition activities, directed to infants and young children, and involving their mothers and other care-givers in the programme - have provided significant developmental benefits for the participants. In developed countries, centre-based or home-based intervention programmes designed for infants and pre-school children using different educational strategies have demonstrated that children improved their performance in aggregate measures of intellectual performance or on tests of specific cognitive processes (such as attention, learning and memory). The improvements have been attributed to motivational changes, better adaptation to test situations, the increase in the chidren's range of knowledge and changes in their use of cognitive strategies. The mothers or other main care-givers who participated in such programmes also showed more frequent verbal contacts with their children, adopted a more active role as mediators between children and their environment, became more knowledgeable about their children's developmental needs and increased their own self-esteem (Smilansky, 1979).

45. The effects of early childhood programmes may vary depending on their timing and duration. That is, in pre-school programmes the evidence shows that the younger the child at the time of enrolment the greater the benefits; moreover, the longer the period the child stays in the programme, the greater the chances of protecting the child's psycho-social development against adverse environmental circumstances.

46. The evidence, in short, shows that multifaceted programmes embracing different activities such as non-formal education, nutritional supplementation and health care will provide significant developmental advantages to infants and children living under conditions of multiple deprivation. However, the cost and difficulty of implementing multifaceted programmes of this kind make them hard to promote widely in developing countries, which suggests that the emphasis there should be on designing community- and family-based, affordable and feasible approaches.

47. The nature of the stimulation needed by young children indicates that their psycho-social development can be promoted by essentially simple education and stimulation measures which can be made a part of normal caretaking. Some of the measures can be organized on a communal basis in combination with health and nutrition care and others can be implemented by the children's families, if the needs are recognized and if the caregivers in the family and the community know what to do. One example is play, which provides a means of exploring, developing and learning, and fosters the child's ability for social interaction, communication and language, physical mastery and manipulation, sensory stimulation and perceptual development. Psychologists and educators agree that the child's motivation to seek out and master increasingly challenging activities are compromised when the opportunities for informal and structured play are inadequate. An illustrative list of education and stimulation activities, which are simple but important for the child's development, is shown in annex I.

48. Many of the studies and projects cited in the foregoing discussion have referred to measurements of psycho-social development. These measurement scales, developed by researchers in industrialized countries, are of necessity complicated in content and form, require expertise to use and interpret, and are not culture-free. Some UNICEF-assisted child development projects have attempted to use some of the scales, with mixed results. A pertinent question is whether simple tools of measurement based on a small number of essential indicators of psycho-social development can be devised which, with some adaptation and perhaps establishment of country norms, can be used widely by community workers and families for assessing the child's psycho-social developmental status. Such scales, analogous to the growth chart for assessing the nutritional status of the child, could be an enormous step forward in the promotion of child development. Research on the feasibility of such scales would be a highly worthwhile investment.

Conclusions from the review of research

49. Multiple deprivations result in cumulative deficit. In conditions of marked social, biophysical and environmental deprivation, the growth and development deficits observed in children will be magnified with increasing age. Among populations where PEM and infectious diseases are endemic and where the stimulation for learning is restricted, there is a cumulative adverse effect on children's development. The gap between their levels of intellectual functioning and that of appropriate reference groups will be wider as the children grow older.

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50. Poverty exacerbates the risks for children. The family's economic situation is the most important single determinant of the probability and the intensity of the various risks affecting child development and of whether the child and the family can overcome the consequences of these risks through recuperative measures. The cruel dilemma that poverty poses for the welfare of children is illustrated by the effect on children's welfare of mothers' employment outside the home. The ill effects associated with mothers' work are evident mostly among low-income families, but it is in these families that the mothers' earning may spell the difference between having and not having food and clothing for the children. It is, therefore, essential that, in assessing the risks for children, in identifying groups at risk, and in considering policies and actions to alleviate the consequences of the risks, the socio-economically disadvantaged groups should be the priority concern. Public policies for child development that do not lead to well-targeted actions designed to mitigate the consequences of poverty are unlikely to succeed.

51. The pre-natal period and the first years of life need the highest attention. Given the vulnerability of children at the perinatal stage and in infancy, ensuring favourable biophysical conditions for growth during pregnancy and the early stage of childhood should be the highest child development priority. It may be possible to mitigate the ill effects of early deficiencies by recuperative measures and by creating a supportive environment. However, in as much as the affected children are the victims of poverty in the first place, costly recuperation measures are bound to be more difficult to organize on an adequate scale than preventive measures at an earlier stage. Attention to physical survival and health, however, should not preclude attention to the psychological and social aspects of the child's growth and to providing the child with appropriate educational and interaction opportunities. Psycho-social stimulation for the young child should be combined with health and nutrition activities and built into the normal caretaking of the child without necessarily initiating new, narrowly focused stimulation programmes.

52. Community-based arrangements are needed for disadvantaged groups and children of working mothers. A distinction needs to be made between institutionalized pre-school education and community-based early childhood care and education programmes. Pre-school programmes of the conventional type, which concentrate on academic preparation and are essentially an extension of the formal education system, generally serve only a small proportion of children and fail to serve the most disadvantaged groups; they cannot yet be regarded as an important element of a national child development effort. Moreover, they cost too much to set up on a large scale in most developing countries. Rather, the needs of working mothers, the opportunity to supply children with basic health and nutrition care and the possibility of compensating to some extent for the socio-cultural disadvantages of the children of poor families call for pre-school programmes which adopt affordable non-formal approaches, which pay attention to both the urgent psycho-social and the urgent biophysical needs and which are based on community participation and contributions. Women's employment is important for the survival and welfare of children among the poor and entails support services, so that children's well-being is not jeopardized by the absence of child care. A practical possibility is continuing the arrangements and activities initiated for the earlier age group (rather than enforcing an

artificial cut-off point at 24 months) provided these arrangements can be adapted to the needs of the older age group without imposing an undue burden on public and community resources. Experiments with neighbourhood care, community-based paraprofessionals and other low-cost schemes show promise for helping socio-economically disadvantaged children.

53. Maternal education is of strategic importance. Irrespective of the family's socio-economic status, the education of mothers is positively associated with the welfare and development of children. The mother is likely to be the most important primary health care worker for the child. Giving the mother the knowledge and understanding of what the child needs and what she can do to meet these needs is the way to unleash the most potent force in favour of the child: the mother's love and concern for her child. While at least four years of primary school are generally regarded as necessary to achieve a sustainable level of educational achievement, even a shorter exposure to formal or non-formal education helps to make mothers open to new ideas and programme activities that benefit their children. Support for women's education, therefore, should aim both at a general improvement of women's educational level (through primary education and literacy efforts) and at special targeted activities for specific groups such as pregnant and nursing women and mothers of young children.

II. REVIEW OF CHILD DEVELOPMENT PROJECTS

UNICEF involvement

54. UNICEF at present supports a wide variety of early childhood development projects. Some projects provide direct services to children; others seek improvements through the education of care-givers - mothers, siblings, the extended family, neighbours or other community members. Some projects focus on the three-to-six age group while others emphasize the period from birth to two. Some employ paid staff; others involve voluntary paraprofessionals. Some projects adopt an approach that is based in the home and others a centre-based approach. In brief, no one way to provide services and improve development is being promoted, and there is experimentation over a wide range.

55. These child development projects, like others assisted by UNICEF, are directed towards poor children and their families. The projects draw on community participation and are set in locations where other problems affecting children are being attacked simultaneously through health, nutrition, or other programmes. UNICEF has not supported kindergartens or academic pre-school programmes serving privileged children. It has assisted Governments in the formulation of national policies (particularly during and in the aftermath of the International Year of the Child) and it has aided the preparation of pre-school learning materials.

56. In one group of projects, child development has essentially been added to primary health care or nutrition programmes affecting, in the main, children up to two. In Indonesia, for instance, mothers who bring their babies for periodic weighing are being shown how they can use toys made from local materials to help their children be more alert and active. In Jamaica, a nutrition recuperation project, partially supported by UNICEF, has incorporated new responsibilities for health aides, chosen from the community,

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who visit the homes of recuperated children to help establish an education-stimulation regimen. The Jamaican experiment helps to keep children from slipping back into malnutrition and is testing the feasibility of one relatively low-cost approach to providing early stimulation.

57. Attention to pre-school-aged children is sometimes included in support for child-care arrangements associated with projects to help working women. For example, in Senegal, assistance is going to a programme of day-care centres for pre-schoolers when their mothers are heavily involved in agricultural work for several months of the year. The centres, run by the communities, provide parental education, immunization, simple health care, and midday meals for the children.

58. Other UNICEF-assisted projects started out specifically as child development projects. In 2,000 rural communities of highland Peru, for instance, a paraprofessional animador, chosen by the community and given some training (with UNICEF support), organizes daily learning experiences and a feeding programme for children aged three to six, in "children's houses" built or provided by the local community. The project serves as a stimulus for other community development activities. The Peruvian experience has been adapted to the Dominican Republic as part of a multisectoral programme including activities in health, nutrition, sanitation and water provision. To improve parent-child relationships at home, the Dominican project has established study groups for the parents whose children are enrolled in the pre-schools. The project now reaches 20,000 children and their families in one area of the Dominican Republic and is to be extended nationally.

59. India's massive programme for integrated child development services provides another example of a comprehensive approach to child development. Its objectives are: (a) to improve the nutritional and health status of children from birth to six; (b) to lay the foundations for the proper psychological, physical, and social development of the child; (c) to reduce the incidence of mortality, morbidity, malnutrition and dropping out of school; (d) to achieve effective co-ordination of child development policy and implementation among the various ministries involved; and (e) to enhance the mother's ability to look after the child's needs, through proper nutritional and health education. The focal point for the delivery of this governmental programme is the anganwadi (literally, the "courtyard") of the community, where community workers, who receive a short training and are paid a small honorarium, provide early education, monitor the weight of children, hold literacy classes for mothers and work with visiting health workers and doctors. UNICEF has contributed funds for training, monitoring and some equipment to help the programme to start up and expand.

Review of selected projects

60. UNICEF is, of course, only one actor in the support of early childhood development. To obtain a more general view of programmes designed to improve the health and development of young children, information was gathered on 42 projects, some of which are UNICEF-assisted, in a range of developing countries. Kindergarten or academic pre-school projects were not reviewed. Given the uneven nature of the available information, only the basic project features were compared (table 1).

61. Most of the projects are relatively new, going back no more than five to 10 years, indicating the recent and growing interest in child development. Some two thirds of the projects were from Latin America, reflecting the greater general interest there in organized early childhood programmes (a development fostered by relatively high per capita income, low mortality rates and high primary-school enrolment in comparison with Asia or Africa). UNICEF programming has the same tendency; co-operation in early childhood development projects has been proportionally greater in Latin America and the Caribbean than in other regions.

Table 1

Characteristics of 42 selected child development projects

Characteristics	Number of projects
Primary objective	
Comprehensive child development	20
Emphasis on psycho-social development	11
Prevention of disabilities/rehabilitation	5
Custodial care	6
Coverage	
Local	26
Regional or national	16
Target age group	
0-6 years	22
0-2 years	2
3-6 years	18
Organizational features	
Home/family based	14
Centre-based	28
Tied closely to community development	12
Not directly tied to community development	30
Main funding	
Governmental	25
Non-governmental or private voluntary organizations	17
Personnel	
Community volunteers	22
Local paraprofessionals	20

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Objectives

62. The major objectives of the early childhood projects reviewed fall into three main categories:

(a) Promotion of a broad view of child development encompassing its physical, intellectual and social aspects and incorporating an active community role in the programme strategy;

(b) Pursuit of a narrower child development goal emphasizing psychological and social stimulation, as in many pre-school programmes;

(c) Prevention of disabilities and rehabilitation of those affected by early deprivation or trauma.

63. The project objectives are intimately linked with the content, clientele and the organizational arrangements. The above categories indicate only a relative emphasis on certain objectives; custodial care is an important element in most of the projects and it is likely that their original motivation in some cases was baby-minding, modified later by the recognition that day care can also serve the developmental needs of children. Most projects also have subsidiary objectives depending on the organizational features, coverage, sources of support and special interests of the organizers. The projects that complement a broader community development effort usually emphasize such corollary objectives as community participation, involvement and education of mothers and community self-reliance in meeting essential child development needs. Projects serving a small population in a limited geographical area usually seek to demonstrate an approach which, if successful, may then be extended.

Coverage

64. Twenty-six of the projects were local in nature, serving a few dozen to a few hundred children. Sixteen projects were national or regional. The integrated child development services programme in India, for example, is due to cover 20 per cent of the more disadvantaged pre-school population and pregnant and nursing mothers by 1985 and will eventually reach 50 per cent of the needy population. One of the more interesting initiatives in child development has been taken in Venezuela where a national Minister of State for the Development of Intelligence has been appointed and a nation-wide educational and media campaign to promote child development has been initiated. The mass-media approach of the Venezuelan project (Proyecto Familia) is targeted at the whole population, with the aim of generating activities all over the country. Most of the projects give explicit priority to the more disadvantaged social groups and children. They do indeed serve the relatively underserved groups, but generally it appears to be extremely difficult to reach those truly at the bottom of the poverty scale.

65. In terms of age range, 18 projects concentrated basically on three-to-six-year-olds and 22 served children from birth to six. Only two focused on children up to two - a disturbing lack in view of the evidence that this age group is in greater need of help, both in the developing countries in general and in the more disadvantaged families in particular. This probably reflects a concept of child development projects modelled after the pattern in industrialized countries, which emphasizes the cognitive aspects of development at the pre-school stage.

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Organizational arrangements and funding

66. Twenty-five projects were sponsored by the Government and the remaining 17 were privately sponsored. The larger projects with a sizeable geographical and population coverage tended to be under the auspices of government, either national or subnational. The smaller experimental projects, focused on specific aspects of child development, were generally under the management of voluntary and non-governmental organizations. An important issue concerns the means by which small-scale experimental and demonstration activities might be successfully incorporated into the designs and methods of larger programmes.

67. Only 11 of the 42 projects had organizational links with a broader community development effort complementing and drawing on other development activities in the community. These projects also took a broader view of the developmental needs of children, emphasized community and family involvement and focused on the mother and the family rather than exclusively on the child.

68. Two thirds of the projects used a specially designated physical facility - usually a pre-school centre - as the base for project activities. In the others, the activities were carried out through homes and families. The preponderance of pre-school centres reflects the emphasis on the three-to-six age group and on a model of psycho-social stimulation requiring a specific physical setting.

Personnel

69. In about half the projects, activities were carried out mainly by volunteers from the same community as the children, who had received short, practical training. In some cases they received a small compensation for their service. In Senegal, for example, the volunteer day-care centre workers were literate youths from the village who had been given a short training course by the local community development agent, assisted by Ministry of Health workers in the area.

70. In the other projects, the workers consisted mainly of paraprofessionals, who were often nominated by the communities they served. Their financial remuneration was small compared to that of the field workers of government departments and they were not regarded as a part of the civil service. But they differed from the community volunteers in having received a more systematic pre-service training, and they were considered part of the hierarchy of project personnel. Cases in point are the anganwadi workers in India and the Sarvodaya pre-school workers in Sri Lanka. In both instances, the workers went through a short but institutionalized training course and were integrated into the community development personnel structure, which is a government structure in the Indian programme and a voluntary set-up in the Sri Lankan one.

71. All the projects reviewed relied on community-level workers, either volunteers or paraprofessionals. In some cases, the mothers of the participating children served in their communities, receiving small or no compensation; they were not required to have much formal education or attend a long pre-service training course. An overemphasis on "professionalization" of personnel (rigid formal education requirements, credentials and training standards) was not a problem in the projects reviewed. All the projects,

however, depended on professional guidance, technical support, and supervision for planning, management and operation. The support system of India's anganwadi programme, for instance, draws on the Government's health, education and social welfare departments. A medical officer assisted by lady health visitors and auxiliary nurse-midwives, on the one hand, and a child development project officer assisted by mukhya sevikas (supervisors of child development work), on the other, guide and supervise the community-level anganwadi workers.

Concluding points

72. Unclear national policies and priorities. The diversity in objectives, content, methodology, personnel and organizational arrangements of the various projects reflects, at least partially, differences in circumstances and needs, and is not undesirable in itself. Some of the differences, however, have arisen not so much from an assessment of the overall child developmental needs as from the particular interest of a sponsoring organization. Moreover, very few of the 42 projects reviewed, with a few exceptions, represent a national perspective and potentially nation-wide scope. Many of the individual projects are certainly serving their particular clientele successfully, but the total outlook is not encouraging, given the magnitude of the problems. The absence of a national policy framework in many countries seems to have opened the way for public and private initiatives which have sometimes led to misdirected attention, wasted resources and scattered action.

73. Partial and narrow approaches. The lack of an overall policy for the developmental needs of all the children in a country is reflected in the types of project found in the developing countries. While many projects adopt a comprehensive view of children's needs and pursue a multifaceted strategy, a large number of projects focus narrowly on intellectual stimulation for older children preparing to move into formal education. This is the case even in situations where basic child health and nutrition needs are far from being met, particularly for the younger children up to two. In the same vein, too many projects do not take into account the multiple influences on the child's welfare and development; their activities are directed exclusively at the child, neglecting the mother-family-community nexus. Such projects do not link up with or complement other community development efforts. The result is often a partial approach that is either ineffective or favours the relatively well-off.

Unresolved questions

74. Project experience suggests the importance of relying on volunteer and semi-volunteer workers from the beneficiary communities rather than insisting on the professionalization of child development workers. It is also evident that links have to be forged with other community development and service activities so as to prevent the child development project from being an isolated effort.

75. The projects have not, however, supplied clear guidance for the future as regards the relative emphases to place on different facets of child development, or the approaches to follow for the different stages of childhood. In part this reflects a weakness in project evaluation efforts, which have not raised appropriate questions. Such evaluation is also necessary for better understanding of the nature of child development in different socio-economic contexts.

76. The question of how to dovetail government and voluntary efforts is of great significance because both possess special strengths. Voluntary organizations figure prominently in child development in most countries. The projects under review appear to have operated largely on the basis of mutual non-intervention, without attempting to explore the possibilities for mutual support and reinforcement. On the whole they fail to provide useful lessons on this issue.

77. The projects do not shed much light on the important question of costs, largely because of weak evaluation and unclear project premises and approaches. Some budget information was available but provided no basis for judging costs and cost-effectiveness. There is a general lack of analysis of the costs - financial, human and in kind - and the relative benefits for different groups.

78. In summary, many of the projects have not been in existence long enough and do not have a strong enough evaluation component to provide definitive guidance for formulating child development policies and programmes. More systematic assessment of the projects' development and implementation undoubtedly would have yielded better results. One conclusion, however, emerges clearly: there is a dearth of initiatives for children up to two, even though these children are the most vulnerable in most of the countries.

III. POLICY AND ACTION IMPLICATIONS

79. While most of the growing and learning of the young child happens spontaneously through the maturation process, the environmental and cultural setting may impede or facilitate this process. The aim of policies and programmes to promote the psycho-social development of the child must be to create a social, cultural and physical environment that encourages the growth process.

Need for a comprehensive perspective

80. The multifaceted problems of the growing child require a multifaceted response. Efforts to promote child development, therefore, must adopt an integrated approach which blends health, nutrition and stimulation as well as other components as needed in a particular situation. It should also seek ways to strengthen traditional ways of coping with children's needs and to insert psycho-social aspects into existing health, education and other community services, rather than initiating new programmes.

81. Priorities must be determined and a national policy framework established. Obviously, all the environmental deficiencies cannot be remedied for every child, however desirable that may be. It is essential, therefore, even when a multifaceted approach is adopted, to assign priorities and to exercise selectivity in deciding on appropriate actions to promote child development. The choice of priorities and actions must be guided by an understanding of the nature of child development and must take into account the following main factors: (a) the developmental stage or the age of the child; (b) the major risk factors affecting the child, the social services available, and the capacity of families to meet the basic needs of children in the particular socio-economic situation; and (c) the economic and institutional feasibility of the planned actions. National efforts, if they

are to measure up to the needs in child development, have to be based on clear indications of national objectives, policies and priorities. A framework of national policies and choices will in turn guide the choices made by government and voluntary agencies and communities so that they can address the most urgent problems and the problems of the neediest in the most effective manner.

82. Greater awareness of the psycho-social aspects of growth is needed. Without disregarding the urgency of survival and health for the vast majority of children in developing countries, it has to be recognized that the psycho-social development of children also needs systematic attention. Much greater efforts are needed to sensitize all those who come in contact with the child - including health and nutrition workers, community development agents, social workers, mothers, other family members and those involved in income-producing activities for women - to the need and the possibility of incorporating the psycho-social dimension into their activities for the welfare of children. It is not enough to accept only conceptually a broad view of the physical, psychological and social aspects of human development; this view must be reflected in programme approaches. Programme strategies which concentrate on urgent needs in both the biophysical and the psycho-social aspects of development should be encouraged.

83. Poverty should be an important programme criterion. Poverty contributes in a major way to the creation of the eco-cultural and biophysical disadvantages of children, exacerbates the effects of these disadvantages, and prevents families and social groups from taking remedial measures - thus condemning the affected children to continued suffering. The prime aim of public policies for child development must be to mitigate the adverse consequences of poverty for the child and find means to contribute to the redistribution of income.

Constellations of needs and responses

84. Annex II provides a schematic presentation of the types of developmental problems (risks) faced by children, their causes and the appropriate programme activities.

85. The clusters of suggested responses build on the set of high-priority actions, addressing the most urgent problems for child survival and health, advocated in the UNICEF reports on The State of the World's Children 1982-83 and 1984. The additional dimension proposed here is the emphasis on the synergistic relationship between physical growth and psycho-social growth and the need to pay attention to the psychological and social aspects of the child's development at the same time as addressing the urgent health and survival needs.

86. The attempt to differentiate the problems faced by children in different socio-economic situations follows the policy guidelines for programme approaches in different socio-economic situations (E/ICEF/L.1453), approved by the Executive Board in 1983. The suggested programme emphases are not rigid prescriptions, but indications. This kind of differentiation needs to be applied not only to countries but also to subregions and social groups within

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countries. It should also be noted that infant mortality rates and per capita income are not invariably related; it is always necessary to examine the peculiarities of a particular situation.

Organizational and institutional issues

87. Programme organization should allow diversity and flexibility to meet varying needs. For children up to two, when biological maturation occurs rapidly, health and nutrition care and a supportive home environment are needed, rather than centre-based institutional arrangements, except where custodial care is important. The main intervention at this stage generally would be the effort to improve the knowledge and understanding of mothers and other care-givers of children's developmental needs and what they can do to create a supportive environment. For the child in the three-to-six age group, the need for greater social interaction with peers, exploration of the larger environment beyond home and the circumstances of working mothers will generally require a more institutionalized communal approach, for which a range of alternatives exist. The appropriate choices have to take account of the human and material resources available and the possibility of reaching all children in need of the services, particularly among the impoverished groups. Organizational arrangements that involve families, communities and voluntary organizations are likely to respond effectively to the varying needs.

88. National and regional bodies should assume a supportive and facilitative role. While national policies and priorities for child development should be as clear as possible, the national Government's role should not centre on regulating, controlling, directing and licensing institutions, programmes and personnel. Rather, the formulation of national policies and the launching of government-initiated programmes should lead to the creation of a framework for (a) allocating public and private resources wisely and effectively; (b) defining the complementary roles and functions of different government and non-governmental organizations and bodies contributing to child development; and (c) facilitating the effective participation of all parties concerned. Local institutional and organizational structures such as local government bodies, co-operatives and local voluntary agencies are likely to be the most effective means for integrating and co-ordinating at the community level the different services and activities which affect child development.

89. Programmes should be linked with community development efforts. Child development efforts linked with and set in the context of broader community development programmes are likely to be more effective in generating the necessary multisectoral support and involvement of the community, family and local organizational structures. Successful community development programmes depend on the mobilization of the community members towards a common goal. The healthy growth and development of children is a goal shared by most members of different communities across different social and cultural contexts. Consequently, child development programmes may provide a strong basis for carrying out multifaceted community programmes.

90. Primary schools should adapt their programmes to help children from diverse backgrounds to prepare for formal education. Institutionalized pre-school programmes are often defended on the grounds that they prepare the child for the primary school. However, such programmes should not bear the

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entire burden of psycho-social preparation for and adjustment to primary education. While non-formal approaches involving the family and community can also have an important effect on child adjustment and performance, the first year of primary school also can and should take on the task of helping youngsters to adjust to the formal education routine. From the point of view of equity and efficient use of resources, this is likely to be a desirable approach. In fact, it has been observed in many countries that when children have been properly stimulated during their first six years, it becomes even more necessary to carry out long-overdue improvements in primary education.

Costs and resource mobilization

91. Economically affordable approaches must be developed. A major obstacle to the expansion of child development services is the fact that poor countries and communities cannot afford them. Any programme approach or institutional model advocated must be economically feasible beyond the initial pilot stage when external assistance may cover the costs. The assessment of economic feasibility should include the following considerations: (a) the programme approach should facilitate the active participation of the community and the mobilization of the community's resources; (b) the programme methodology should rely on simple technologies and equipment which are locally replicable and which lead to greater self-reliance; (c) the programme model should be open to potential synergistic relationships with other development activities and should take advantage of "piggy-backing" possibilities; and (d) the programme should be economically affordable when expanded to serve all those who are considered to be in need of the services. The long-term unit costs of programmes, for instance, should bear a reasonable relationship to per capita income and per capita government budget expenditure.

92. Different kinds of costs should be matched against all identifiable benefits. The consideration of costs should include not only the budgetary and monetary costs, but also the contributions made in kind, people's time and various opportunity costs (other benefits forgone because time and money have been put into a project). The comparison of costs and the identifiable short-term and long-term benefits is at the heart of applying cost-effectiveness principles, because a project's costliness depends on the benefits it brings and not just on the size of its budget. Another important consideration from the point of view of equity concerns the incidence of costs and benefits: who bears the costs and who receives the benefits.

93. A balanced perspective of needs should guide resource allocation. An important tenet in considering cost is to allocate resources according to an established order of priority. The developmental needs of children, however, cannot be defined in mutually exclusive and discrete categories. The physical vulnerability of the infant and the small child in developing countries must receive the highest attention; at the same time, the sensory, motor and verbal stimulation of young children is no less important for their growth, but these measures can be integrated into health and nutrition measures and normal caretaking at home if the need is recognized. Similarly, expenditure for

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formal pre-school education would be inappropriate when large numbers of children do not have the opportunity of primary education, but disadvantaged families and communities may need help to enable their children to take advantage of whatever primary schooling is available. It is essential, therefore, that an appropriate balance is struck in devoting resources to the different aspects of the child's needs at different developmental stages.

Evaluation and learning from experience

94. Evaluation should provide information about both process and outcome for better operational guidance. Systematic attention should be paid to acquiring baseline data, clearly specifying the desired outcomes of a project and defining indicators for monitoring progress and outcome. Both process and content should be regularly monitored by the institution providing services as well as by the participating community.

95. Evaluation should signal any need for a shift in programme focus under changing circumstances. The balance between survival and health measures and psycho-social stimulation will bear close watching, as the direct threat to survival and health recedes for certain countries and groups of populations, and the post-survival conditions of poor children become the main obstacles to their normal development. The monitoring and evaluation of programmes should be sensitive to signals that indicate the need for a shift in programme focus arising from such symptoms of "development" as increased participation by women in the labour force, migration to cities and erosion of traditional child-care practices.

96. Research on unanswered questions should be supported. Research and studies should be directed selectively to questions which need to be answered for a better understanding of child development interventions and for improving their effectiveness. Some topics that deserve high priority in research are: (a) developing simple and widely applicable indicators and scales for assessing children's psycho-social growth; (b) the consequences for the child of a reduced energy balance as the result of malnutrition; (c) tools and methods for assessing the quality of interaction between the young child and the mother and other care-givers in different socio-economic circumstances; and (d) evaluation of cost-effective approaches for promoting psycho-social development in the early and late stages of childhood in different socio-economic situations.

"Do"s and "don't"s in UNICEF programme co-operation

97. The nature of children's needs in developing countries and the limitations of resources dictate certain rules of thumb which can be generally applied in UNICEF co-operation programmes. In general, UNICEF should not adopt the following approaches:

(a) It should not support projects which concentrate mainly on the academic preparation of pre-school children to the neglect of the needs of younger children and the pre-natal stage or projects dealing in an isolated way with a particular component of child development;

(b) It should not support projects which are not clearly directed towards, and do not achieve some success in serving, the children of disadvantaged groups;

(c) It should discourage an insistence on academic qualifications and long training for child development workers that would prevent community volunteers from managing the activities and prevent communities from being self-reliant;

(d) It should not encourage the trend of constructing special facilities exclusively for pre-school programmes;

(e) It should not support the use of imported equipment and commercially produced toys and play materials;

(f) It should not support projects with cost patterns that would prevent their large-scale expansion or replication;

98. Conversely:

(a) UNICEF should encourage and support national efforts to diagnose the full range of developmental needs of children (survival and health as well as psycho-social elements), to assess the outreach of child development services and to formulate national objectives, policies and priorities as the basis for working out cost-effective approaches for serving the neediest groups in different socio-economic situations;

(b) UNICEF should encourage broadly conceived organizational approaches that, on the one hand, address in a co-ordinated way the urgent survival, health and development needs of children, and on the other, bring the family, the community and government and non-governmental organizations together into a coherent programme effort, linking it, when appropriate, with a broader community development effort;

(c) UNICEF should encourage and support such research, experimentation, evaluation and exchange of experience as are helpful in answering operational and methodological questions about effective approaches in different socio-economic situations; UNICEF should also seek the collaboration of universities, interested non-governmental organizations, specialized agencies of the United Nations such as WHO and UNESCO, and funding agencies such as the World Bank and bilateral donors;

(d) UNICEF should use its multisectoral strengths to encourage multisectoral collaboration in child development in order to incorporate the education-stimulation dimension into health, nutrition and custodial care activities and vice versa; it is a question not only of child survival but of the fullest possible development, according to existing knowledge, of the genetic potential of the human being;

(e) UNICEF should support economically feasible community-based approaches for combining custodial care with psycho-social stimulation and primary health care in situations where rapid socio-economic changes (such as growth of urban slums, large numbers of mothers in outside employment, or high

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proportions of single-parent families) have disrupted children's natural environment for growth; the emphasis should be on home and family-based activities, particularly for the early stage of childhood and existing or traditional arrangements for child-rearing should be relied on as much as possible;

(f) UNICEF should emphasize the critical role of the mother in child development activities and support improvement of the general level of women's education as well as specific educational activities for women of child-bearing age;

(g) UNICEF should promote an awareness of the role of play in young children's biological maturation and the development of their mental faculties and encourage the making of toys and playthings from household objects and widely available materials;

(h) UNICEF should encourage adjustments in the programme of the primary school, particularly its first year, to facilitate participation by children from disadvantaged groups, rather than viewing institutionalized pre-school programmes as the main approach for psycho-social preparation for school. Moreover, the primary educaton system will need improvement in any case to meet children's needs when they have received adequate early stimulation;

(i) UNICEF should support efforts to educate opinion leaders and decision makers as well as the public about the multifaceted needs of children and ways of meeting them; this would include supporting the compilation and dissemination of authoritative information on child development; comprehensive child development should become a national undertaking in every one of the countries with which UNICEF co-operates. Indeed, any wide-ranging programme designed to achieve this goal depends absolutely on the foresight and determination of Governments at the highest policy-making level.

Notes

1/ "Reaching the young child" (E/ICEF/520), 1965; "Children and adolescents in the Second Development Decade: priorities for planning and action" (E/ICEF/627), 1973; "The young child: approaches to action in developing countries" (E/ICEF/L.1303), 1974.

2/ Official Records of the Economic and Social Council, 1979, Supplement No. 11 (E/1979/41; E/ICEF/661), para. 148.

3/ Based on a definition of risk by an expert committee of the International Union of Nutritional Sciences (International Union of Nutritional Sciences, "Guidelines on the at-risk concept and the health and nutrition of young children", American Journal of Clinical Nutrition, vol. 30, No. 2, 1977).

4/ World Bank, The Narangwal Experience, in press.

5/ Adapted from Luis Alberto Machado, "The democratization of intelligence", statement issued by the President of the Republic of Venezuela.

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Annex I

ILLUSTRATIVE LIST OF PSYCHO-SOCIAL STIMULATION ACTIVITIES FOR THE YOUNG CHILD

0-2 years	3-6 years
Social interaction	
Child should have frequent contacts with mother (breast-feeding, carrying) and with other family members.	Tell stories and encourage child to respond.
Let child observe and be a part of activities of family life and play with siblings and peers.	Listen to what child says, listen to child's stories, reply to child's questions.
Teach simple words, repeat syllables the child utters, give child simple explanations.	Permit child to be with peers and siblings and take part in play and group activities.
Physical mastery and manipulation	
Freedom of movement; plenty of time for bathing; and gross motor stimulation.	Teach child to jump with feet together, to hop from one foot to the other.
Place within reach objects which child can grasp and bring to mouth without danger.	Teach child to jump as high as possible, to leap and run.
Help child to get up, sit up, move around and walk.	Let child carry a receptacle filled with water or sand.
Sensory stimulation and perception	
Bright moving object can be placed in front of child to be followed with eye movement.	Have child recognize objects, colours, fruits and foodstuffs.
Let child play with water or sand and get dirty.	Teach child to sort objects by size, shape and colour.
Provide child with household or simple play objects to manipulate.	Allow child to create toys out of household objects.
	Provide materials for drawing and painting.
Emotional well-being and personality	
Laugh, sing, play with child, tell stories.	Assign simple and pleasant tasks.
Provide encouragement and approval for efforts made by child.	Provide child with opportunities for new events and experiences.
Let child initiate own activities.	Allow child to play with safe household tools.
	Let child assume responsibility for simple household tasks.
Language development	
Encourage child to laugh, coo and make sounds.	Encourage child to describe things and situations.
Let child name objects, people and pictures.	Use a varied vocabulary when speaking to child.
Teach words for parts of the body.	Introduce child to reading materials.

Source: Compiled from International Children's Centre, The child and his development from birth to six years old, UNESCO, 1976, pp. 37-40; and C.T. Cataldo, Infant and toddler programs: a guide to very early childhood education, Addison-Wesley, 1983, p. 124.

Annex II

MAIN PROBLEMS OF CHILD DEVELOPMENT AND INDICATIVE PROGRAMME EMPHASES IN DIFFERENT SOCIO-ECONOMIC SITUATIONS

A. High infant mortality context

(Infant mortality over 100 per 1,000 live births;
female literacy rate under 40 per cent;
fewer than one third of children with access to health services;
per capita income under $400)

Main risk factors	Programme emphases
Pre-natal stage (conception to birth)	
Low calorie and protein intake prior to and during pregnancy	Pre-natal maternal health care including screening for high-risk pregnancies
High prevalence of anaemia	Nutrition advice and selective supplementation
High incidence of infections	Family spacing advice and service
Closely spaced pregnancies	Women's education on nutrition, mothers' health and child care
Pregnancy at early age	Women's education in general
Early childhood (0-2 years)	
Large proportion of low birth weights	Immunization of children
High prevalence of protein-energy malnutrition	Growth monitoring and selective dietary supplementation
High prevalence of micro-nutrient deficiencies	Development of appropriate and inexpensive weaning food
High incidence of gastro-intestinal and upper respiratory infections	Mothers' education focusing on breast-feeding, oral rehydration and early physical-verbal stimulation
No immunization	Water and sanitation programmes
Poor visual and sensory stimulation	
Highly deficient motor and verbal stimulation	
Maternal malnutrition and anaemia during lactation	
Inadequate breast-milk, supplementation and weaning food	
Poor domestic water supply, sanitation and hygiene	
Late childhood (3-6 years)	
High prevalence of protein-energy malnutrition	Growth monitoring, selective family food supplementation and specific dietary supplementation
High prevalence of micro-nutrient deficiencies	Communal or neighbourhood play groups combined with custodial care as needed
High incidence of infections	Early screening and detection of disabilities
Unsafe home environment	Mothers' education on child nutrition, psycho-social stimulation and safe home environment
Deficient social and verbal interaction	Promoting women's employment compatible with child rearing
Inadequate play materials	
Inadequate or absent caretaking	
Undetected hearing and sight problems	
Family instability	

Annex II (continued)

B. Medium infant mortality context

(Infant mortality 50-100 per 1,000 live births;
female literacy 40-70 per cent;
about half of children with access to health services;
per capita income $400-$1,000)

Main risk factors	Programme emphases
Pre-natal stage (conception to birth)	
Low calorie and protein intake prior to and during pregnancy	Pre-natal maternal health care including screening for high-risk pregnancies
Prevalence of anaemia	Family spacing advice and services
Closely spaced pregnancies	Women's education on nutrition, mothers' health and child care
High incidence of infections	
Insufficient pre-natal care	
Early childhood (0-2 years)	
Prevalence of low birth weight	Universal immunization coverage
High incidence of infections	Growth monitoring and specific dietary supplementation
Micro-nutrient deficiencies	Mothers' education on breast-feeding, weaning food, oral rehydration and physical-verbal stimulation
Decreasing breast-feeding and detrimental weaning practices	
Partial immunization coverage	
Deficient motor, sensory and social stimulation	
Late childhood (3-6 years)	
Micro-nutrient deficiencies	Growth monitoring and specific dietary supplementation
Deficient psycho-social stimulation	Communal or neighbourhood play groups combined with custodial care as needed
Inadequate or absent caretaking	Early screening and detection of disabilities
Undetected hearing and sight problems	Mothers' education on child nutrition, psycho-social stimulation and safe home environment
Accidents	Legislative measures against child abuse
Child abuse	

Annex II (continued)

C. Low infant mortality context
(Infant mortality under 50 per 1,000 live births;
female literacy over 70 per cent;
over half of children with access to health services;
per capita income over $1,000)

Main risk factors	Programme emphases
Pre-natal stage (conception to birth)	
Alcohol and smoking Single mothers and non-supportive family environment Environmental toxins	Women's education on nutrition, mothers' health and child care Screening and detection of high-risk pregnancies Pre-natal counselling
Early childhood (0-2 years)	
Some infections Some micro-nutrient deficiencies Decreasing breast-feeding Deficient motor, sensory and social stimulation for some	Special attention to groups not receiving adequate health and social services Mothers' education, focusing on breast-feeding, oral rehydration and early physical-verbal stimulation
Late childhood (3-6 years)	
Micro-nutrient deficiencies Accidents Deficient psycho-social stimulation for some Child abuse Environmental toxins	Neighbourhood play groups or pre-school activities combined with custodial care as needed Early screening and detection of disabilities Mothers' education on child nutrition, psycho-social stimulation and safe home environment Legislative measures against child abuse Government clean-up programmes and community education on environmental pollutants

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